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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

TRAN, NHAN T

ART UNIT	PAPER NUMBER
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2615

DATE MAILED: 09/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/835,033

Applicant(s)

SAH, ADAM D.

Examiner

Nhan T. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/29/2005 & 8/25/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-36 and 38-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-26, 28-36, 38 and 40 is/are rejected.
- 7) ☒ Claim(s) 27 and 39 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/29/2005 & 8/25/2005 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 19-36 & 38-40 have been fully considered but are moot in view of the new grounds of rejection except for claims 27 & 39.

Information Disclosure Statement

3. The information disclosure statements (IDS) submitted on 7/29/2005 & 8/25/2005 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

Claim Objections

4. Claim 19 is objected to because of "the user's system" recited in (ii) of both steps (d) and (e). This should be changed to -- the user's computer system -- for a proper antecedent basis in the claim. Appropriate correction is required.

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Claims 28, 29, 31 & 35 are also objected because of "the user's system" which should be changed to -- the user's computer system -- for a proper antecedent basis in the claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 19, 22, 24-26, 28, 30, 31, 33, 34 & 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al (US 6,549,948 B1) in view of Ismail et al (US 6,104,705).

Regarding claim 19, Sasaki discloses a method for refreshing an image (see Abstract), the method comprising:

capturing an image with a camera (902, Fig. 13);

sending an image to a user's computer system (i.e., a user's computer at terminal 13 or 14);

refreshing the image (sending a subsequent image to the user after a previous image according to a frame rate; Fig. 13 and col. 5, line 60 – col. 6, line 24), the step of refreshing the image comprising:

(i) capturing a refreshed image with the camera (902), and

(ii) sending the refreshed image to the user's computer system, wherein *at least a portion* of the step of refreshing the image is performed when a refresh period has elapsed (see col. 5,

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line 60 - col. 6, line 6, and note that since the camera 902 is a video camera, therefore in order to refresh an image with a subsequent image, a previous refresh period must have elapsed before starting a subsequent refresh period for the video camera to function properly);

determining whether to increase the refresh period (this equates to *decreasing frame rate* since frame rate is reversely proportional to a frame period or a refresh period, i.e., $T = 1/f$; see col. 5, line 60 – col. 6, line 24 and col. 8, lines 10-52), wherein the step of determining whether to increase the refresh period comprises determining: whether the user has provided any input into the user's system (see col. 15, lines 1-6, wherein user's input is mouse clicking *or* visual axis of the user);

Sasaki does not specifically teach that increasing the refresh period (decreasing frame rate) in response to determining that a first period of time has elapsed since the user last provided any input into the user's system. However, as taught by Ismail, a group dynamics monitoring signal which monitors various activities of group members in video conferencing network. Activities include audio, video, keyboard, mouse, etc. for describing the status of each member such as dominating, active or inactive so that the controller will analyze the group dynamics monitoring signals received from each user *within a specific time window* and decrease video frame rate to any *inactive* user after elapse of the specific time window, thereby increasing bandwidth for *active* users to optimize overall bandwidth utilization. See Ismail, col. 3, lines 17-24; col. 4, lines 1-60 and col. 2, lines 32-35.

Therefore, it would have been obvious to one of ordinary skill in the art to enhance the video conferencing system in Sasaki by including the teaching of Ismail for monitoring the user's activities (user's input, i.e., keyboard, mouse, voice and visual axis of the user, etc.) *within*

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a specific time window so as to reduce the video frame rate transmitted to the user if the user has not provided any input into the user's system after the elapse of the specific time window, thereby increasing bandwidth for active users to optimize overall bandwidth utilization.

Regarding claim 22, the combination of Sasaki and Ismail clearly discloses that the step of determining whether to increase the refresh period (decreasing the frame rate) is performed periodically (see Ismail, col. 4, lines 33-53, wherein the specific time window is run periodically for the system to function as disclosed).

Regarding claim 24, see the analysis of claim 22, wherein in order to increase the refresh period for a subsequent image (decreasing frame rate), the previous refresh period must have elapsed for the system to function properly.

Regarding claim 25, the combination of Sasaki and Ismail further discloses that the step of determining whether to increase the refresh period (decreasing frame rate) is performed when a timer reaches a preset value (see Ismail, col. 4, lines 33-40 for the preset value being the specific time window or Sasaki, col. 7, lines 38-43).

Regarding claim 26, see the analysis of claim 25, wherein the timer is also considered as a counter.

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Regarding claim 28, see the analysis of claim 19, wherein the user's interaction is the user's activities such as the user's input via keyboard, mouse, voice, etc.

Regarding claim 30, Sasaki further discloses that the user is permitted to change the refresh period by using a mouse to click on decreasing frame rate button 107 or increasing frame rate button 106 as shown in Fig. 1; col. 5, lines 64-67.

Regarding claim 31, Sasaki discloses an apparatus to refresh an image (Figs. 8 & 13), the apparatus comprising:

(a) a network connection at 814 to 815 shown in Figs. 8 & 13, wherein the network connection is operable for communicating images from a camera (902) to a user's computer system (11-14) (see col. 6, lines 1-12);

(b) a refresh logic (CPU 804 in combination with 811 & 814) configured to refresh an image captured by the camera upon a lapsed of a refresh period (see the analysis of claim 19 for a lapsed period of each frame), the refresh logic being configured to refresh an image by sending a refreshed image to the user's system via the network connection (see col. 6, lines 7-24);

(c) a refresh rate logic (also CPU 804) in communication with the refresh logic, wherein the refresh rate logic is configured to determine whether the refresh period should be changed, the refresh rate logic being further configured to change the refresh period in response to a determination that the refresh period should be increased (decreasing frame rate), wherein the refresh rate logic is in communication with:

an activity monitor (i.e., detection of user's visual axis) configured to monitor activity of the user, wherein the refresh rate logic is configured to determine whether the refresh period should be changed based at least in part on one or more communications from the activity monitor (see col. 15, lines 1-6 and col. 7, lines 38-43).

Sasaki does not specifically teach that the activity monitor is configured to monitor whether a first period of time has elapsed since the user last provided any input into the user's system. As taught by Ismail, a group dynamics monitoring signal which monitors various activities of group members in video conferencing network. Activities include audio, video, keyboard, mouse, etc. for describing the status of each member such as dominating, active or inactive so that the controller will analyze the group dynamics monitoring signals received from each user *within a specific time window* and decrease video frame rate to any inactive user after elapse of the specific time window, thereby increasing bandwidth for active users to optimize overall bandwidth utilization. See Ismail, col. 3, lines 17-24; col. 4, lines 1-60 and col. 2, lines 32-35.

Therefore, it would have been obvious to one of ordinary skill in the art to enhance the video conferencing system in Sasaki by including the teaching of Ismail for monitoring the user's activities (user's input, i.e., keyboard, mouse, voice and visual axis of the user, etc) *within a specific time window* so as to reduce the video frame rate transmitted to the user if the user has not provided any input into the user's system after the elapse of the specific time window, thereby increasing bandwidth for active users to optimize overall bandwidth utilization.

Regarding claims 33 & 34, see the analyses of claims 22 & 31.

Regarding claims 36, see the analysis of claim 19.

6. Claims 20, 21, 23, 32 & 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al and Ismail et al as applied to claims 19 & 31 and in further view of Tullberg et al (US 6,813,312).

Regarding claim 20, Sasaki and Ismail do not explicitly teach that the step of increasing the refresh period (decreasing frame rate) comprises increasing the refresh period along an exponential curve. However, as taught by Tullberg, a camera network system is configured to increase a refresh period of captured image by gradually decreasing frame rate from 25 frames/second (period = $1/25 = 40\text{ms}$) to 5 frames/second (period = $1/5 = 200\text{ms}$) along an exponential curve (see Tullberg, Figs. 4, 5a, 5b & 6a) when unimportant images in normal events are not likely to be watched by the user or operator so as to save memory space for storing important images at higher frame rate for more important events. See Tullberg, col. 7, line 10 - col. 8, line 15 and col. 8, lines 60-65.

Therefore, it would have been obvious to one of ordinary skill in the art to modify the method for refreshing the image in Sasaki and Ismail to incorporate the teaching of Tullberg for increasing the refresh period (decreasing frame rate) along *an exponential curve* so that important images would be refreshed at higher rate while unimportant images would be refreshed at decreasing rates along an exponential curve for saving memory space while optimizing network bandwidth utilization.

Regarding claim 21, Tullberg further discloses that at least a portion of the step refreshing the image is no longer performed (zero frame per second which is indicated by 0 Fps) after a second period of time has elapsed (see Tullberg, Figs. 4, 5a, 5b).

Regarding claim 23, also disclosed by Tullberg is that the period for determining whether to increase the refresh period is greater than the refresh period. See Figs. 4, 5a & 5b, wherein the refresh period is about 40ms for the frame rate of 25 frames/sec or 66.66ms for the frame rate of 15 frames/sec and a period to determine whether to increase the refresh period (decreasing frame rate) is scaled in minutes (horizontal axis).

Regarding claim 32, see the analysis of claim 21, wherein the refresh period is set to infinity (zero frame/sec).

Regarding claim 40, it is also seen from Fig. 1 of Sasaki that if the second period of time has elapsed, visual indicating is performed by displaying nothing on each screen 111-114 (i.e., black or blank screens) since no image is sent to the user's computer system for displaying.

7. Claims 29, 35 & 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al and Ismail et al as applied to claims 19 & 31 and in further view of Atick et al (US 6,111,517).

Regarding claim 29, Sasaki and Ismail do not explicitly teach that the step of determining whether the user is active or inactive comprises determining whether *a screen saver* has been activated on the user's system. Atick teaches that it is well known in the art that most operating systems comprise a screen saver feature. In accordance with this feature, when the operating system detects a preestablished period of user inactivity, it automatically launches a screen saver application (see Atick, col. 8, lines 41-61).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further combine the method of Sasaki and Ismail with Atick for determining whether the user is active or inactive by detecting whether the screen saver has been activated on the user's system in a conventional configuration to implement a comprehensive monitoring function to include all possible ways to detect user's activities.

Regarding claims 35 & 38, see the analysis of claim 29.

Allowable Subject Matter

8. Claims 27 & 39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 27, the prior art of record fails to teach or fairly suggest *the steps of determining whether the image is visually obstructed on the user's computer system comprises determining whether the image is covered by a window.*

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Regarding claim 29, the prior art of record also fails to teach or fairly suggest further steps: *(f) counting the number of times the step of refreshing the image has been performed; and (g) increasing the refresh period when the step of refreshing the image has been performed a certain number of times.*


Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Tran whose telephone number is (571) 272-7371. The examiner can normally be reached on Monday - Thursday, 7:30am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NT.


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